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United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Veterinary
Services

Use of Nutritional Supplements & Feed Additives in Dairy Heifers

National Dairy Heifer Evaluation Project

Many dairy producers do not use readily available nutritional supplements or feed additives which may be of economic benefit.

Figure 1 shows the use of vitamin A, D, and E supplements. From 44 to 50.3 percent of the dairy producers report using some type of feed source for these vitamins; smaller percentages use injectable products. The combined percentages for vitamins given in feed and by injection are similar for all the age groups shown. Neither dosage nor frequency were addressed by the study. The information collected shows that many animals may not be receiving any supplementation for these vitamins.

Selenium supplementation for the same age groups are shown in Figure 2. Providing dietary selenium is the most common means of supplementation. In some areas of the country, high selenium levels in the soil result in diets that do not require additional selenium. However, much of the dairy population in this study is from deficient areas indicating that nonsupplemented animals may be at risk of selenium deficiency.

Figure 3 shows the use of dewormers and coccidiostats for dairy calves and heifers. Over half of the producers report that they deworm calves during the critical weaning to first breeding period, and nearly that many use dewormers on heifers from breeding to calving. Between 23 and 31 percent of producers

give coccidiostats to calves during the two stages from birth to first breeding. It is possible that some of the producers citing use of coccidiostats for older heifers are actually using ionophores which are additionally labelled for control of coccidiosis.

Figure 1. Use of Vitamins A-D-E for Dairy Heifers

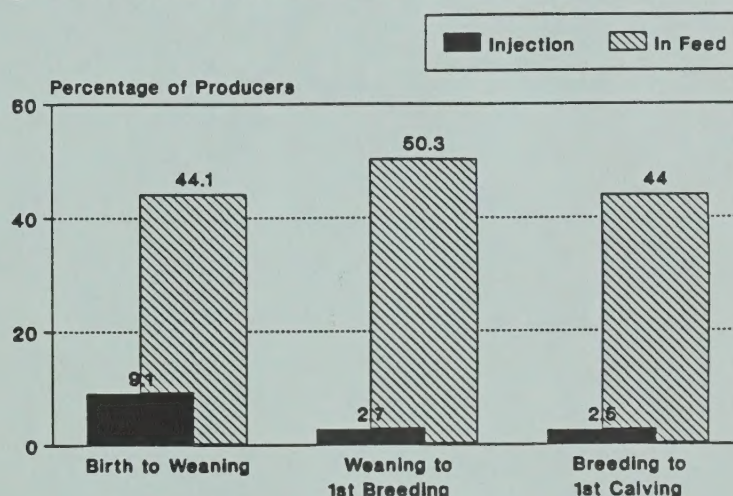
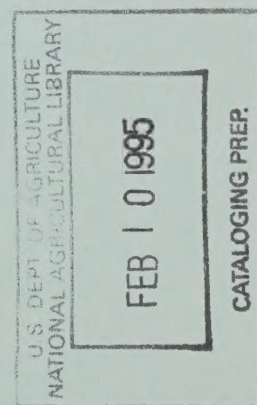
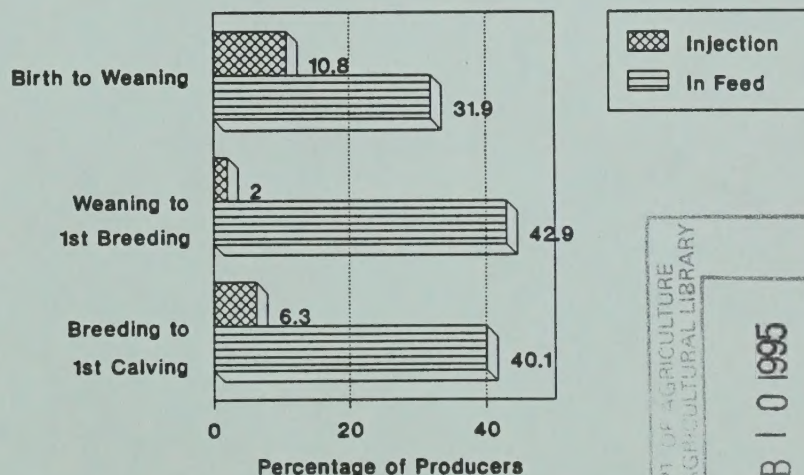


Figure 2. Selenium Supplementation for Dairy Heifers



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The study also addressed the use of ionophores. Ionophores are compounds that alter rumen fermentation to allow heifers to more efficiently utilize feed energy sources. The Food and Drug Administration (FDA) has also cleared them for use in dairy heifers to prevent coccidiosis. These compounds have only been approved for a few years, yet a relatively large group of producers report using them. Over one-third of the producers feed the compounds to heifers from weaning to first breeding and more than

one-quarter feed them to heifers from breeding to first calving (Figure 4).

The preventive practices discussed here are among those documented during a 1991-92 study by the National Animal Health Monitoring System (USDA:APHIS:VS). The National Dairy Heifer Evaluation Project (NDHEP) included 1,811 dairy operations in 28 states.¹ These operations were randomly chosen so that the results would be representative of herds of 30 cows or more in the 28 states. The herds represent 78 percent of the National dairy cow population. Information on preventive practices was collected from 1,177 of the NDHEP producers.

Further analysis of the NDHEP data will address other items and issues related to preventive health care. Researchers will continue to use the NDHEP information on preventive practices to determine associations with calf diseases and health conditions. 🐄

Figure 3. Deworming and Coccidiostat Use for Dairy Heifers

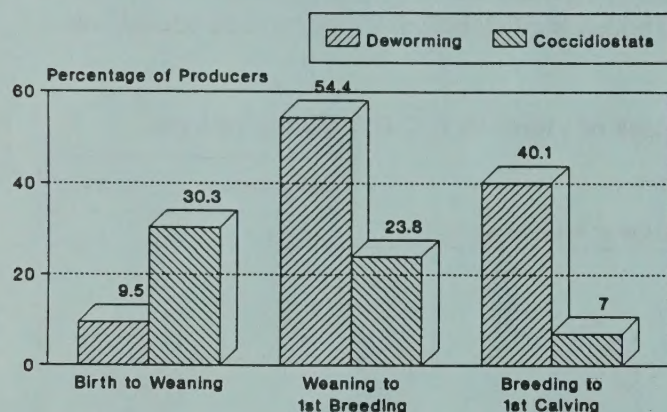
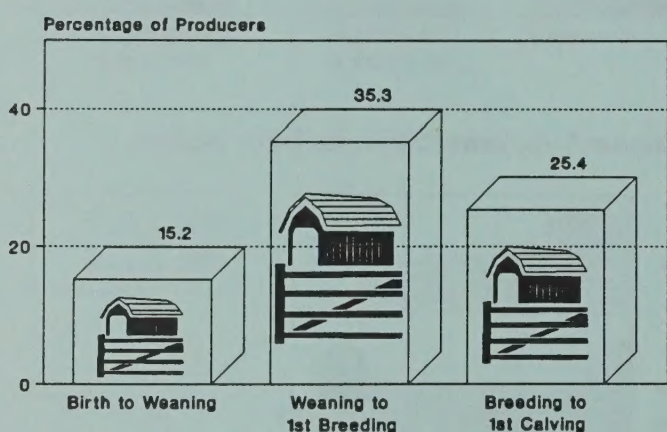


Figure 4. Percentage of Dairy Producers Who Feed Ionophores to Dairy Heifers



Participants in the NDHEP also included the National Agricultural Statistics Service (USDA), National Veterinary Services Laboratories (USDA:APHIS:VS), and State and Federal Veterinary Medical Officers. The Cooperative Extension Service provided editorial assistance. For more information on the National Dairy Heifer Evaluation Project and other NAHMS programs, please contact:

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¹States participating in the National Dairy Heifer Evaluation Project (NDHEP): Alabama, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, North Carolina, Pennsylvania, Ohio, Oregon, Rhode Island, Tennessee, Vermont, Virginia, Washington, and Wisconsin.